REMARKS

Claims 19-22 are pending. A Final Office Action mailed November 10, 2006 rejected Claims 19-22 under 35 U.S.C. § 103. Pursuant to 37 CFR § 1.116, Applicant hereby respectfully requests reconsideration of the application.

REJECTION OF CLAIMS UNDER 35 U.S.C. § 103

The Office Action rejected Claims 19-22 as being unpatentable over Applicant admitted prior art (AAPA) (FIGURE 4) in view of Ellsberry et al. (hereinafter "Ellsberry"). With regard to Claim 19, the Office Action states that the AAPA fails to disclose a plurality of metal chip bond pads formed on the inner surfaces of the top and bottom substrates and a gold stud bump between the chip bond pads on the top and bottom substrates. The Office Action further states that Ellsberry discloses electrodes formed on opposing inner substrate surfaces, complimentary metal chip bond pads, and a gold stud bump 308 mechanically and electrically coupled between the chip bond pads on the top and bottom substrates. Applicant respectfully traverses this rejection.

Applicant submits that Ellsberry (0021) states:

"The term "underside coupling members" is used to refer to such relatively rigid electrical coupling member as conductive bumps, conductive balls (e.g., solder or gold balls), and conductive rods."

Throughout Ellsberry the underside coupling members are only referring to the items that are mounted between the memory die 301 and the substrate 304 (Abstract, Claims). Claim 1 states:

"a memory die mounted on the first surface of the substrate using a plurality of rigid underside coupling members...

a plurality of solder balls mounted on the first surface of the substrate in a ball grid array configuration, at least one of the solder balls electrically coupled to at least one of the underside coupling members;

a plurality of pads coupled to the second surface of the substrate, each pad electrically coupled to one or more of the plurality of solder balls..."

Thus, Applicant submits that Ellsberry never confuses the underside coupling members with the solder balls (308, FIG. 3). Applicant submits that it would be impractical to use gold stud bumps at position 308 (FIG. 3). The amount of gold needed required to provide the proper height separation and the number of bumps needed between the first and second substrates of a plurality of layers, would make its application here impractical because of the cost of gold.

The only suggestion for using gold stud bumps between inner surfaces of cover plates is in the present invention. Therefore, Applicant submits that the use of Ellsberry represents impermissible hindsight.

Therefore, Applicants submits that Ellsberry fails to teach using gold stud bumps between substrates and fails to provide any motivation for same.

Therefore, Applicant submits that independent Claim 19 is allowable over the cited reference. Because Claims 20-22 depend from allowable independent Claim 19, they are allowable for the same reasons that make independent Claim 19 allowable.

CONCLUSION

Applicant respectfully submits that all of the claims of the pending application are now in condition for allowance over the cited references. Accordingly, Applicant respectfully requests withdrawal of the rejections, allowance, and early passage through issuance. If the Examiner has any questions, the Examiner is invited to contact the Applicant's agent listed below.

Respectfully submitted,

BLACK LOWE & GRAHAM PLLC

Michael S. Smith
Registration No. 39,563
Direct Dial: 206.749.9888